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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,337	09/08/2003	Makoto Miyamoto	117051	9193

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EXAMINER

ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,337

Applicant(s)

MIYAMOTO ET AL.

Examiner

Martin J. Angebrannt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/8/03, 1/7/04, 1/16/04 & 3/8/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
- 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/8/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The inventorship has been corrected as requested on 1/16/2004 to list Yoshihiro IKARI.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,3-6 and 9 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Kimura et al. JP 02-147288.

Table 1 (page 5) Sample E exemplifies a GeTeBiSn composition where on a GeTeBi ternary phase diagram the composition is Te 50.36%, Ge 44.55 % and Bi 5.1%, which bounded by B3,D3,D3,D5,C5 and B5 of the instant specification. This appears to be coated to a thickness of 100 nm (example 1, page 4, lower right column) using a sputtering process at 1×10^{-5} Torr. Sample L would be similar.

With respect to claims 3-6, this is intended use and merely specifies that the linear velocity of the disc is higher as the radius increases, which is inherent with constant angular velocity (CAV). The claims do not preclude varying the laser intensity as a function of radius. The examiner holds that the sputtering target would have a similar composition to the resultant

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coating. If the applicant has English translations made, the examiner would appreciate a copy with the subsequent response.

5. Claims 1,3-7 and 9 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Nakanishi et al. JP 02-043088

Example 4 exemplifies a GeTeBiTl composition where on a GeTeBi ternary phase diagram the composition is Te 51.45%, Ge 42.1 % and Bi 6.45 %, which bounded by B3,D3,D3,D5,C5 and B5 of the instant specification. This appears to be coated to a thickness of 95 nm using a sputtering process at 5×10^{-1} P on a polycarbonate substrate with a groove pitch of 1.6 microns (page 4/lower right and page 5/lower left).

With respect to claims 3-6, this is intended use and merely specifies that the linear velocity of the disc is higher as the radius increases, which is inherent with constant angular velocity (CAV). The claims do not preclude varying the laser intensity as a function of radius. Similarly with respect to claim 7, the wavelength and NA are not specified and so this limitation is still quite broad. The examiner holds that the sputtering target would have a similar composition to the resultant coating. If the applicant has English translations made, the examiner would appreciate a copy with the subsequent response.

6. Claims 3-6 and 9 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Kimura et al. JP 62-209741 (patent 2592800).

Table 1, point D₂ exemplifies a GeTeBi composition where on a GeTeBi ternary phase diagram the composition is Te 50 %, Ge 30 % and Bi 20 %, which bounded by B2,D2,D2,D6,C8 and B7 of the instant specification. This appears to be coated to a thickness of 100 nm (example

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1, page 4, left column) using a sputtering process at 1×10^{-5} Torr. The examiner notes that the volume bounded by A1 through E1 embrace the

With respect to claims 3-6, this is intended use. The examiner holds that the sputtering target would have a similar composition to the resultant coating.

7. Claims 1, 3-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. JP 63-225935 (patent 2574325)

The examples, such as example 3, describe PMMA substrate coated with 80 nm ZnS, 100 nm of GeTeBi and 160 nm ZnS. The use of these is laser having powers of 6-12 mW at velocities of up to 20 m/sec is disclosed. (page 6(lower left and right columns.)). The polygon 3 set forth by points A-D in the table on page 7 embraces the compositions bounded by B2,D2,D2,D6,C8 and B7 or B3,D3,D3,D5,C5 and B5 of the instant specification. The use of any compositions within the disclosed polygons is described as forming satisfactory recording media. (abstract)

It would have been obvious to use compositions from within the polygon 3 set forth by points A-D in the table on page 7, including $\text{Te}_{50}\text{Ge}_{45}\text{Bi}_5$, as the composition in place of that specifically used in the examples with a reasonable expectation of forming a useful optical recording medium based upon the disclosure that any composition within these polygons will form satisfactory recording media.

8. Claims 1, 3-7 and 9 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Nakanishi et al. '232.

Example 5 exemplifies a GeTeBiGa composition where on a GeTeBi ternary phase diagram the composition is Te 50.43%, Ge 44.72 % and Bi 4.86 %, which bounded by

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B3,D3,D3,D5,C5 and B5 of the instant specification. This appears to be coated to a thickness of 90-100 nm using a sputtering process on a grooved polycarbonate substrate. (10/7-11/50). The use of thicknesses of 10-70 for the recording layer is disclosed. (5/25-34). Example 6a exemplifies a GeTeBiGa composition where on a GeTeBi ternary phase diagram the composition is Te 50.92%, Ge 41.66 % and Bi 7.42 %, which bounded by B3,D3,D3,D5,C5 and B5 of the instant specification with thicknesses of 34 nm.

9. Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi et al. '232.

It would have been obvious to one skilled in the art to modify example 6a by using other thicknesses disclosed as useful, including 10-15 nm, with a reasonable expectation of forming a useful optical recording medium based upon this disclosure.

10. Claims 3-6 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Maeda et al. '052.

Example 13 exemplifies a GeTeBi composition where on a GeTeBi ternary phase diagram the composition is Te 55 %, Ge 30 % and Bi 15 %, which bounded by B2,D2,D2,D6,C8 and B7 of the instant specification .This appears to be coated using a sputtering process at 8.5×10^{-5} Pa.

11. Claims 1-7 and 9 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Kojima et al. '950.

Kojima et al. '950 teach an optical recording medium as sample 11-2 where the recording layer is 11 nm thick and has a composition of Te 51%, Ge 45 % and Bi 4 % formed by sputtering on a grooved polycarbonate substrate.

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12. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Kojima et al. '950 or Nakanishi et al. '232, in view of Kondo et al. '139.

Kondo et al. '139 teaches phase change optical recording media with wobbled grooves. This includes address information [0128,0136]. Useful optical recording media can use various phase change recording materials including those alloys composed of Te, Ge and Bi [0164].

13. It would have been obvious to one skilled in the art to modify either Kojima et al. '950 or Nakanishi et al. '232 by using wobbled grooves as taught by Kondo et al. '139 as providing address information with a reasonable expectation of success based upon the use of this with phase change recording media.

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 1-9 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-15 of copending Application No. 10/929425 (prepub 2005/0064334). This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application.

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since the referenced copending application and the instant application are claiming common subject matter, as follows: The claimed subject matter of the two applications overlap including recitation of specific GeTeBi compositions and thicknesses of the recording layer.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Uno et al. '304 teaches various optical recording media including GeTeBi ([0100] and recording layer thicknesses of 5-25 nm [0196].

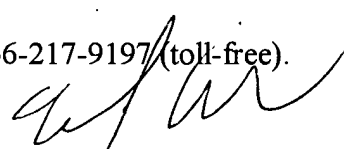
JP 63-155442 and JP 01-165048 teach GeTeBi composition, outside the claimed scope.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Martin J. Angebranndt
Primary Examiner
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06/03/2005